



REMARKS

Claims 1-25 are pending in this application. In this reply, no claims have been amended and no new matter has been added. Applicants request reconsideration of the rejections set forth in the Office Action mailed July 25, 2006 ("the Office Action") and allowance of this application for at least the following reasons.

In the Office Action, claims 1, 2, 10, 11, 14, 15, 21, and 23 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,762,920 to Parker ("Parker"). Claims 3, 4, 12, 13, 16-19, and 24 were rejected under 35 U.S.C. 103(a) as unpatentable over Parker in view of Conova et al. (U.S. Patent Application Publication No. 2003/0202304) ("Conova"). Claims 5-7, 9, 20, and 22 were rejected under 35 U.S.C. 103(a) as unpatentable over Parker in view of Huang et al. (U.S. Patent No. 6,952,335) ("Huang"). Claim 8 was rejected under 35 U.S.C. 103(a) as unpatentable over Parker in view of Yoshida et al. (U.S. Patent No. 6,791,207) ("Yoshida"). Applicants respectfully traverse these rejections for the reasons stated below.

The primary prior art reference used in each of these rejections is Parker. Parker discloses a system to detect an arc fault in variable frequency AC systems. Parker explicitly discloses that the system is for detecting arc faults in AC systems (Title; column 1, line 17; column 1, lines 54-55). The system of Parker comprises a current detector and a processing means to process the transient current signal for indications of an arc fault (column 3, lines 16-29). Although the exact details of the signal processing involved to indicate an arc fault vary with different embodiments, Parker essentially accumulates the increase in magnitudes of AC currents in two successive half cycles weighted by the period of the half cycle (column 3, line 57 - column 4, line 15). When this accumulated value of the difference in current exceeds a threshold

value, an arc fault is detected (column 4, line 25-30). The system of Parker uses signal processing to compute a quantity which is related to the rate of change of current and compares it to a threshold value of the quantity (column 3, line 57 - column 4, line 30), rather than comparing the magnitude of voltage to a threshold value of voltage as claimed by the applicants ("the voltage level to a reference potential" in independent claims 1, 14, and 21).

Anticipation Rejections

A prior art reference anticipates a claim only if each and every element set forth is found described in the piece of prior art. M.P.E.P. § 2131.

Parker does not disclose or suggest each and every aspect of independent claims 1, 14, and 21. Claims 1 and 14 recite "a comparator that compares the voltage level to a reference potential and generates a circuit indicator signal." Claim 21 include similar recitations. Paragraphs 12 and 13 of the specification clearly describe how the two voltages are compared to output an indicator signal. Instead of comparing voltages in the circuit to a threshold voltage, Parker compares a quantity related to the change in current amplitude in successive cycles to a threshold value (Abstract; column 3, line 57 - column 4, line 30; see Fig. 2 where "Line Current" is fed into elements "43" and "47" for processing before being compared with "SDLYTRIPTHRESH" in element "55.") This approach is different from comparing voltages and may require more electronic circuitry to implement. Thus, for at least this reason, Parker cannot anticipate claims 1, 14 and 21. Claims 2, 10, and 11 depend from claim 1, claim 15 depends from claim 14, and claim 23 depends from claim 21. Therefore, these claims are allowable over Parker at least for the same reasons that

their respective independent claims are allowable. Accordingly, Applicants respectfully request withdrawal of the §102(e) rejection.

Obviousness Rejections

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. M.P.E.P. § 706.02(j).

Parker in view of Conova

In the Office Action, claims 3, 4, 12, 13, 16-19, and 24 were rejected under 35 U.S.C. 103(a) as unpatentable over Parker in view of Conova. The obviousness rejection set forth in the Office Action asserts that it would have been obvious to incorporate the missing elements in Parker, such as, for example, a MOSFET, fuse, reset switch, etc., from Conova. However, Conova does not remedy the deficiency of Parker discussed above. In addition, there is no suggestion, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, that incorporating these elements is desirable, or even that there would be any expectation of success. For at least these reasons the §103(a) rejection of claims 3, 4, 12, 13, 16-19, and 24 should be withdrawn.

Parker in view of Huang

In the Office Action, claims 5-7, 9, 20, and 22 were rejected under 35 U.S.C. 103(a) as unpatentable over Parker in view of Huang. Claims 5-7, and 9 depend from claim 1, claim 20 depends from claim 14, and claim 22 depends from claim 21. As discussed above with regard to claims 1, 14 and 21, Parker does not disclose or suggest generating an indicator signal when a voltage exceeds a threshold voltage. Huang does not remedy the deficiency of Parker. For at least this reason, §103(a) rejection of claims 5-7, 9, 20, and 22 should be withdrawn.

Parker in view of Huang

In the Office Action, Claim 8 was rejected under 35 U.S.C. 103(a) as unpatentable over Parker in view of Yoshida. Claims 8 depends from claim 1. As discussed above with regard to claims 1, Parker does not disclose or suggest “a comparator that compares the voltage level to a reference potential and generates a circuit indicator signal.” Huang does not remedy the deficiency of Parker. For at least this reason, §103(a) rejection of claims 5-7, 9, 20, and 22 should be withdrawn.

Conclusion

In view of the above, Applicants respectfully submit that claims 1-24 are in condition for allowance. Accordingly, Applicants respectfully request reconsideration and re-examination of this application and the timely allowance of the pending claims.

The Office Action contains characterizations of the claims and the related art, with which Applicants do not necessarily agree. Unless expressly noted otherwise, Applicants decline to subscribe to any statement or characterization in the Office Action.

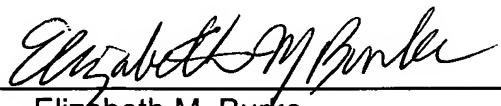
If the Examiner believes a telephone conversation might advance prosecution,
the Examiner is invited to call Applicants' undersigned representative at 202-408-4488.

Please grant any extensions of time required to enter this response and charge
any additional required fees to our deposit account no. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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By: 
Elizabeth M. Burke
Reg. No. 38,758